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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/820,009	04/08/2004	Hyung Sun Kim	1740-000093/US	7534

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EXAMINER

CHIO, TAT CHI

ART UNIT	PAPER NUMBER
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2621

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/820,009	Applicant(s) KIM ET AL.	
	Examiner Tat Chi Chio	Art Unit 2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-11 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." In this context, "functional descriptive material" consists of data structures and computer programs which impart functionality when employed as a computer component. (The definition of "data structure" is "a physical or logical relationship among data elements, designed to support specific data manipulation functions." The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).) "Nonfunctional descriptive material" includes but is not limited to music, literary works, and a compilation or mere arrangement of data.

Both types of "descriptive material" are nonstatutory when claimed as descriptive material per se, 33 F.3d at 1360, 31 USPQ2d at 1759. When functional descriptive material is recorded on some computer-readable medium, it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994) (discussing patentable weight of data structure limitations in the context of a statutory claim to a data structure stored on a computer readable medium that increases computer efficiency) and *Warmerdam*, 33 F.3d at 1360-61, 31 USPQ2d at 1759 (claim to computer having a specific data structure stored in memory held statutory product-by-process claim) with *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory).

In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. See *Lowry*, 32 F.3d at 1583-84, 32 USPQ2d at 1035.

Claims 1-11 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory matter as follows. Claims 1-11 define a recording medium embodying functional descriptive material. However, the claim does not define a computer-readable medium or memory and is thus non-statutory for that reason (i.e., "When functional descriptive material is recorded on some computer-readable medium

it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of descriptive material to be realized"). That is, the scope of the presently claimed a recording medium can range from paper on which the program is written, to a program simply contemplated and memorized by a person. The examiner suggests amending the claim to embody the program on "computer-readable medium" in order to make the claim statutory. Any amendment to the claim should be commensurate with its corresponding disclosure.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 5-9, and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Bae et al. (US 2003/0188312 A1).

Consider claim 1, Bae et al. teach a recording medium having a data structure for managing reproduction of a text subtitle data, comprising: a subtitle area storing a text subtitle stream including text subtitle data and at least one of global style information and local style information (Fig. 6), the global style information providing at least one of composition information and rendering information, and the local style

information providing font information for at least a portion of the text subtitle data (Fig. 6).

Consider claim 5, Bae et al. teach the recording medium, wherein the rendering information includes a display effect of the text subtitle data ("font color" of Fig. 6).

Consider claim 6, Bae et al. teach the recording medium, wherein the font information includes at least one a font, font size and a font style (Fig. 6).

Consider claim 7, Bae et al. teach the recording medium, wherein local style information provides font information for a portion of the text subtitle data recorded sequentially after the local style information (Fig. 6).

Consider claim 8, Bae et al. teach the recording medium, wherein the text subtitle data includes at least one text string (it is well-known in the art that subtitle data includes at least one text string).

Consider claim 9, Bae et al. teach the recording medium, wherein the local style information is stored in association with the portion of the text subtitle data for which the local style information provides the font information (Fig. 6).

Consider claim 13, A method of reproducing a data structure for managing reproduction of a text subtitle data, comprising: reproducing a text subtitle stream from the recording medium (Fig. 5), the text subtitle stream including text subtitle data and at least one of global style information and local style information (Fig. 6), the global style information providing at least one of composition information and rendering information (Fig. 6), and the local style information providing font information for at least a portion of the text subtitle data (Fig. 6).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2-4, 12, 14, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bae et al. (US 2003/0188312 A1) in view of Tsukagoshi et al. (5,848,217).

Consider claim 2, Bae et al. teach all the limitations in claim 1 but fail to teach the recording medium, wherein the composition information includes position information for positioning a text subtitle represented by the text subtitle data on a display.

Tsukagoshi et al. teach the recording medium, wherein the composition information includes position information for positioning a text subtitle represented by the text subtitle data on a display (col. 5, lines 56-58). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the composition information in the subtitle data in order to give a more accurate description of the subtitle data.

Consider claim 3, Bae et al. teach the recording medium, wherein the rendering information includes a display effect of the text subtitle data ("font color" of Fig. 6).

Consider claim 4, Tsukagoshi et al. further teach the recording medium, wherein the global style information includes the composition information and the rendering information (col. 5, lines 56-67).

Consider claim 12, Bae et al. and Tsukagoshi teach a method of recording a data structure for managing reproduction of a text subtitle data, comprising: recording a text subtitle stream on the recording medium (col. 13, lines 45-55 of Tsukagoshi et al.), the text subtitle stream including text subtitle data and at least one of global style information and local style information (Fig. 6 of Bae et al.), the global style information providing at least one of composition information and rendering information, and the local style information providing font information for at least a portion of the text subtitle data (Fig. 6 of Bae et al.).

Consider claim 14, Bae et al. and Tsukagoshi et al. teach an apparatus for recording a data structure for managing reproduction of a text subtitle data, comprising: a driver for driving an optical recording device to record data on the recording medium (Fig. 9 of Tsukagoshi et al.); a controller for controlling the driver to record a text subtitle stream on the recording medium (14 of Fig. 1 of Tsukagoshi et al.), the text subtitle stream including text subtitle data and at least one of global style information and local style information (Fig. 6 of Bae et al.), the global style information providing at least one of composition information and rendering information (Fig. 6 of Bae et al.), and the local style information providing font information for at least a portion of the text subtitle data (Fig. 6 of Bae et al.).

Consider claim 15, Bae et al. and Tsukagoshi et al. teach an apparatus for reproducing a data structure for managing reproduction of a text subtitle data, comprising: a driver for driving an optical reproducing device to reproduce data recorded on the recording medium (15 of Fig. 1 of Tsukagoshi et al.); a controller for controlling the driver to reproduce a text subtitle stream from the recording medium (14 of Fig. 1 of Tsukagoshi et al.), the text subtitle stream including text subtitle data and at least one of global style information and local style information (Fig. 6 of Bae et al.), the global style information providing at least one of composition information and rendering information (Fig. 6 of Bae et al.), and the local style information providing font information for at least a portion of the text subtitle data (Fig. 6 of Bae et al.).

5. Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bae et al. (US 2003/0188312 A1) in view of Kashima (US 2002/0087999 A1).

Consider claim 10, Bae et al. teach all the limitations in claim 1 but fail to teach the recording medium, wherein the text subtitle stream is stored as at least one packetized elementary stream.

Kashima teaches the recording medium, wherein the text subtitle stream is stored as at least one packetized elementary stream (Fig. 8). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to store the text subtitle stream as packetized elementary stream to facilitate efficient transmission using MPEG 2.

Consider claim 11, Kashima further teaches the recording medium, wherein the text subtitle stream is stored as a plurality of transport packets ([0024]).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tat Chi Chio whose telephone number is (571) 272-9563. The examiner can normally be reached on Monday - Thursday 8:30 AM-6:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thai Tran can be reached on (571)-272-7382. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Art Unit: 2621

TCC

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